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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/420,368	10/18/1999	GERARD FRANCIS MCGLINCHEY	T0461/7003	2702
7590	01/30/2003		EXAMINER	
STEVEN J HENRY C/O WOLF GREENFIELD & SACKS PC FEDERAL RESERVE PLAZA 600 ATLANTIC AVENUE BOSTON, MA 022102211			NGUYEN, HIEP	
		ART UNIT	PAPER NUMBER	
		2816		
		DATE MAILED: 01/30/2003		
				3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/420,368	MCGLINCHEY, GERARD FRANCIS
	Examiner Hiep Nguyen	Art Unit 2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 18 October 1999.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-21 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-21 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 18 October 1999 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> .	6) <input type="checkbox"/> Other: _____

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the recitation "switching means" in claim 1, "a supply voltage" in claim 8, "a termination network" in claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6, 8, 9 and 18 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. None of the figures of the present application show that "the driver circuit operates to limit the output voltage to about one-half of the supply voltage" as recited in claims 6. The same analysis is true for claims 8, 9 and 18.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction and/or clarification is required.

Regarding claim 1, the recitation “first driving means for driving the line; second driving means for driving the line; and switching means for switching between the first and second driving means” is indefinite because it is unclear how the first driving means is connected to the second driving means and how the “switching between the first and second driving means” is meant by. The Applicant is requested to point out where is the switching means in the drawings.

Regarding claim 3, the recitation “wherein the switching means comprises: a first input for enabling and disabling the first driving means; and a second input for enabling and disabling the second driving means” is misdescriptive because the “switching **means**” must comprise a **circuit**. It cannot comprise the **inputs of other circuit** (figure 3). Assume that the “switching means” generates signals for controlling the first and second driving means, these signals must be the **OUTPUTS** of the “switching means” instead of the **INPUTS** as recited.

Regarding claim 6, the recitation “terminating elements coupled to an output voltage of the driver circuit ” is indefinite because it is misdescriptive. Figure 6 of the present application shows that the “terminating elements” are only terminals where the inputs/outputs of the circuit are connected to. They are not the terminating elements (terminations) of a circuit that terminate the outputs of the circuit to avoid reflection. The terminal should be coupled to the output of a circuit instead of “coupled to the output voltage”. The same analysis is true for the recitation “terminating elements” in claim 8.

Regarding claim 8, the recitation “switching means for switching between the bridge current driver and the voltage driver” is indefinite because it is unclear what is the “ switching means” in the drawings. Figure 5 of the present application shows that the “bridge current driver and the voltage driver” are connected together via resistors (53, 54) and an inductor (11). There is “switching means” shown. The recitation “wherein the supply voltage includes a mid-point termination voltage” is indefinite because the “ a supply voltage” and the “a mid-point termination voltage” cannot be found in the drawings. The recitation “when the bridge current driver is selected, the terminating elements are coupled to the mid-point termination voltage and the lines are driven from the bridge current driver; and when the voltage driver is selected, the bridge current driver is disabled and the terminating elements are coupled to the voltage driver” is indefinite because it is unclear what are the “ terminating elements”, “the mid-point termination voltage”. It is also unclear how the “bridge current driver” and the “voltage driver”

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are selected since there is no “selection circuit” shown in the drawings. Figure 5 of the present application shows that there is only an “Enable” input that enables the “bridge current driver”. The Applicant is requested to point out the “a supply voltage”, “switch means”, terminating elements” and “mid-point termination voltage” in the drawings. Note that when the “bridge current driver” is turned on, and the “voltage driver” is turned off there is a only current flowing through the inductor (l1) and there is no “mid point termination voltage” seen. The recitation “when the voltage driver is selected, the bridge current driver is disabled and the terminating elements are coupled to the voltage driver” is indefinite because it is unclear as to the “the terminating elements” on line 20 is the same or different than the ““the terminating elements” on lines 15-16. Assume that in figure 5, the “terminating elements” are (r1, r2) then these “terminating elements” are **always** coupled to the voltage driver (51).

Regarding claims 9 and 10, the recitation “ the mid-point termination voltage “ has the 112, 2nd problem and the “supply voltage” does not exist.

Regarding claim 11, the recitation “a termination network” on lines 3 and 5 is indefinite because it id misdescriptive. The “a termination network” merely comprises terminals that are connected to the inputs/ outputs of the circuits. These terminals are not the “terminating elements” (terminations) of a circuit that terminate the outputs of the circuit to avoid reflection. Figures 5 and 6 show resistors and inductor connected to the output terminal of the driver circuits. These components are not the components of a “termination network”. The Applicant is requested to point out the “a termination network” in the drawing. The recitation “wherein the line driver circuit operates in a first configuration to establish a first mode of operation, and in a second configuration to establish a second mode of operation” is indefinite because the Applicant fails to define what are the “first configuration” and the “second configuration”.

Regarding claims 15 and 16, the recitation “ the terminal network” has the same 112, 2nd problem as raised in claim 11. The recitation “ the second pair of terminals” in claim 15 and the recitation “the first pair of terminals” lack antecedent basis.

Regarding claims 17 and 18, the recitation “wherein the second configuration...non-zero potential” on lines 4-7 is indefinite because it is misdescriptive. The current source driver and the voltage driver are turned on/off one at a time, thus, when the current source driver is turned on, the voltage drive must be turned off. As a result, the “voltage source” cannot maintain the

"second pair of terminals of the termination network at a predetermined non-zero potential" as recited.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 4, 7, and 21, insofar as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Burke (US Pat. 3,843,834).

Regarding claims 1-3, figures 1 and 2 of Burke show a driver circuit for driving a line in a network comprising: first driving means (74) for driving the line; second driving means (76) for driving the line; and switching means (70) for switching between the first and second driving means (see col. 2, lines 50-65). Driving means (74) and (76) are turned on /off one at a time. The switching means (70) generates two outputs (C1) and (C2) for enabling or disabling the driving means.

Regarding claim 4, the first driving means (74) comprises a current source (69).

Regarding claim 7, the second driving means comprises a voltage source (V+)

Regarding claim 21, figure 1 and 2 of Burke show a method for providing multi-mode driver capability, the method comprising the steps of:

- (a) providing a line driver circuit including both a current source and a voltage source;
- (b) selecting a first or second mode of operation;
- (c) operating the line driver circuit in a first configuration when the first mode of operation is selected; and
- (d) operating the line driver circuit in a second configuration when the second mode of operation is selected (see col. 2, lines 48-66).

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Examiner Hiep Nguyen whose telephone number is (703) 305-0127. The examiner can normally be reached on Monday to Friday from 7:30 A.M.to 4:00 P.M.

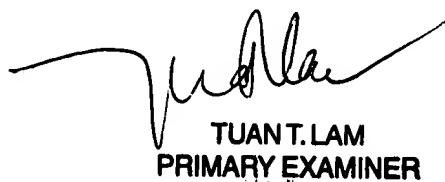
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (703) 308-4876. The fax phone number for this Group is (703) 308-6251.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Hiep Nguyen

Examiner

01-25-03



TUAN T. LAM
PRIMARY EXAMINER